

WHAT I CLAIM AS MY INVENTION:

1. An interposer assembly comprising:

A) a plate formed from insulating material, the plate having a flat top surface, a flat bottom surface extending parallel to the top surface and a substantially uniform thickness;

B) a contact passage extending generally perpendicularly through the thickness of the plate from the top surface to the bottom surface; and a projection located in the passage, the projection extending outwardly from one side of said passage toward an opposing side of the passage, the projection having a first cam surface facing the plate top surface and a second cam surface facing the plate bottom surface; and

C) a metal spring contact located in the contact passage, the contact formed from a wire having a metal core and a circumferential overplating of conductive metal surrounding the core and extending the length of the wire, the wire having a uniform circular transverse cross section; said contact having a central portion, a pair of spring arms extending to either side of the central portion, a pair of contact noses, each contact nose at an end of a spring arm, and a pair of retention legs, each retention leg extending from a contact nose to a rounded end, each contact nose between a spring arm and a retention leg, each contact nose having a convex surface facing outwardly from the plate and defining a high point, and a contact surface on each contact nose high point, each contact surface extending longitudinally along the nose and located centrally between the sides of the wire at the nose, the contact located in the passage with the central portion

adjacent to said opposing side of the passage and the retention legs located on opposite sides of the projection so that the projection retains the contact in the passage.

2. The interposer assembly as in claim 1 wherein said wire has a diameter of about 0.004 to 0.005 inches.

3. The interposer assembly as in claim 2 wherein the plate has thickness of about 0.025 to 0.035 inches.

4. The interposer assembly as in claim 1 wherein said plate includes first means located in the passage for orienting the contact central portion relative to said bottom and top surfaces of the plate.

5. The interposer assembly as in claim 4 wherein said means comprises a pair of surfaces, said surfaces located on said opposing side of the passage.

6. The interposer assembly as in claim 4 wherein said means comprises a groove extending generally perpendicularly to said bottom and top surfaces.

7. The interposer assembly as in claim 4 including second means for guiding said contact central portion to said first means.

8. The interposer assembly as in claim 7 wherein said second means comprises two opposed walls in said passage.

9. The interposer assembly as in claim 1 including a vertical groove in the opposing side of the passage, and wherein said contact central portion is seated in said groove.

10. The interposer assembly as in claim 9 wherein the passage includes two opposed sidewalls, each sidewall extending between the projection and the groove, each sidewall including a corner, said

passage having a generally rhombic transverse cross section.

11. The interposer assembly as in claim 1 wherein said core is formed from a high yield strength metal and said plating is formed from gold or a gold alloy.

12. The interposer assembly as in claim 11 wherein said core is formed from beryllium copper and said plating is formed from gold or a gold alloy.

13. The interposer assembly as in claim 1 wherein said contact includes unplated cut ends, said ends located adjacent said cam surfaces and away from the contact noses to prevent corrosion at such ends from impairing an electrical connection between the contact and a contact pad.

14. The interposer assembly as in claim 1 wherein said contact is flat.

15. The interposer assembly as in claim 1 wherein said contact is loosely confined in the passage.

16. The interposer assembly comprising:

A) a plate formed from insulating material, the plate having a flat top surface and a flat bottom surface;

B) a plurality of through passages extending through the thickness of the plate from the top surface to the bottom surface;

C) a projection located in the center of each passage, each projection extending outwardly from one side of a passage toward an opposing side of the passage;

D) a plurality of metal spring contacts, each contact in a passage, each contact formed from a length of wire having a generally uniform circular cross section and including a metal

core, a metal plating surrounding the core and ends exposing the core;

E) each contact having a central portion, a pair of arms extending to either side of the central portion, a contact nose at the end of each arm, and a leg extending from each nose, each nose having a high point;

F) the projection in each passage extending between portions of the contact in the passage to retain the contact in the passage;

G) the contact noses each having a transverse radius of curvature equal to the radius of the wire and a longitudinal radius of curvature greater than the transverse radius of curvature of the wire, and a longitudinally extending contact surface at the high point of each nose, each contact surface located centrally between the sides of the wire.

17. The interposer assembly as in claim 16 wherein each contact includes a cut leading end and a cut trailing end, the cut leading end of each contact located adjacent one side of the plate and the cut trailing end of each contact located adjacent the other side of the plate.

18. The interpose assembly as in claim 16 wherein said plurality of contacts include first, second and third contacts each having two cut ends; one cut end of said first contact cut-associated with a cut end of the second contact and the other cut end of said first contact cut-associated with a cut end of the third contact.

19. The interposer assembly as in claim 18 wherein each pair of cut-associated cut ends includes a cut end adjacent one plate

surface and a cut end adjacent the other plate surface.

20. The interposer assembly as in claim 16 wherein said wire has a diameter of about 0.004 to 0.005 inches.

21. The interposer assembly as in claim 20 wherein said contacts are located in rows spaced apart about 0.032 inches or less.

22. The interposer assembly as in claim 16 wherein said wire includes a beryllium copper core and gold or gold alloy plating surrounding the core.

23. The interposer assembly as in claim 16 wherein said plate has a thickness of about 0.025 to 0.035 inches.

24. The interposer assembly as in claim 16 wherein said contacts are flat.

25. The interposer assembly as in claim 16 wherein said contacts are loosely confined in the passages.

26. The method of forming and loading metal spring contacts in an insulating plate, the method comprising the steps of:

A) providing an insulation plate having a plurality of passages extending through the thickness of the plate;

B) providing an indefinite length of contact wire having a core and a plating surrounding the core;

C) cutting successive wire segments from one end of the contact wire without waste so that each segment includes a cut lead end and a cut trailing end;

D) bending each cut wire segment to form a spring contact;
and

E) inserting each formed spring contact into a passage in

the plate.

27. The method of claim 26 including the step of:

F) bending and inserting each wire segment before cutting the next wire segment from the wire.

28. The method of claim 26 including the step of:

F) bending said wire segments so that each contact includes two contact noses spaced apart a distance greater than the thickness of the plate and the cut lead end and cut trailing end of the contact are away from such noses.

29. The method of claim 26 including the step of:

F) loosely confining the contacts in the passages.

30. The method of claim 26 including the step of:

D) bending said wire segments to form flat spring contacts.